UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,757	06/27/2003	Yao Wang	EMC-01-141CIP2	7174

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EXAMINER
ADAMS, CHARLES D

ART UNIT	PAPER NUMBER
2164	

DATE MAILED: 01/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/608,757	WANG ET AL.
Office Action Summary	Examiner	Art Unit	
	Charles D. Adams	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 June 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Specification

1.   Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claims 5, 9, 13, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 5, 9, 13, and 17 recite the limitation "each failover server" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 5, 9, 13, and 17 recite the limitation "the primary server" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 1-4, 6-8, 10-12, and 14-16 are rejected under 35 U.S.C. 102(e) as being

anticipated by Sicola et al (US Pre-Grant Publication 2004/0064639).

       As to claim 1, Sicola et al. teaches:

       A data transfer server (see paragraphs [0049] and [0054]);

       A primary software agent in communication with at least one of the two data

storage systems and the data transfer server, the agent configured for performing data

transfer operations in response to commands from the data transfer server (see

paragraph [0049], "storage array controllers", and [0058], "remote copy set operation");

       One or more failover software agents in communication with the primary software

agent, the data transfer server, and at least one of the two data storage systems (see

paragraph [0049], Fig. 2).

       The remainder of the claim is optionally recited, and thus bears no patentable

weight.

As to claim 2, <u>Sicola et al</u>. teaches wherein the data transfer operation is a replication of data within the data storage environment (see paragraph [0058]).

As to claim 3, <u>Sicola et al</u>. teaches wherein server commands to the software agent are sent over a network in accordance with an IP protocol (see paragraph [0053]. An "Internet Link" would inherently use an "IP protocol").

As to claim 4, <u>Sicola et al</u>. teaches wherein the software agent communicates with the at least one data storage system over the network in accordance with a Fibre Channel protocol (see paragraph [0052]).

As to claim 6, <u>Sicola et al</u>. teaches:

A data replication management server (see paragraphs [0049] and [0054]);

A primary software agent in communication with at least one of the two data storage systems and the data replication management server, the agent configured for performing data replication operations in response to commands from the data replication management server (see paragraph [0049], "storage array controllers", and [0058], "remote copy set operation").

One or more failover software agents in communication with the primary software agent, the data replication management server, and at least one of the two data storage systems (see paragraph [0049], Fig. 2).

The remainder of the claim is optionally recited, and thus bears no patentable weight.

As to claim 7, Sicola et al. teaches wherein server commands to the software agent are sent over a network in accordance with an IP protocol (see paragraph [0053]).

As to claim 8, Sicola et al. teaches wherein the software agent communicates with the at least one data storage system over the network in accordance with a Fibre Channel protocol (see paragraph [0052]).

As to claim 10, Sicola et al. teaches a method for managing fault-tolerant resources for replication of data stored in a data storage environment including at least two data storage systems, and wherein data is replicated (see paragraph [0058]) from one of the at least two data storage systems to at least one other data storage system of the at least two data storage systems (see paragraph [0049]), and at least one software agent in communication with at least one data replication management server for managing the fault tolerant resources (see paragraph [0049]), the method comprising:

Configuring one or more software agents as failover agents that are in communication with another software agent that it is also in communication with the data replication management server, and at least one of the two data storage systems

(see paragraph [0049], "storage array controllers", and [0058], "remote copy set operation");

At least one of the one or more failover software agents taking over the data replication operations in response to one or more data replication manager server commands to take over (see paragraph [0020], "the host simply sees a controller failover at the host OS level, causing the OS to retry the operations to the partner controller).

As to claim 11, <u>Sicola et al</u>. teaches wherein server commands to the software agent are sent over a network in accordance with an IP protocol (see paragraph 0053]).

As to claim 12, <u>Sicola et al</u>. teaches wherein the software agent communications with the at least one data storage system over the network in accordance with a Fibre Channel protocol (see paragraph [0052]).

As to claim 14, <u>Sicola et al</u>. teaches:

A data replication management server (see paragraphs [0049] and [0054]);

A primary software agent in communication with at least one of the two data storage systems and the data replication management server, the agent configured for performing data replication operations in response to commands from the data replication management server (see paragraph [0049], "storage array controllers", and [0058], "remote copy set operation").

One or more failover software agents in communication with the primary software

agent, the data replication management server, and at least one of the two data storage

systems (see paragraph [0049], Fig. 2).

The remainder of the claim is optionally recited, and thus bears no patentable

weight.

As to claim 15, Sicola et al. teaches wherein server commands to the software

agent are sent over a network in accordance with an IP protocol (see paragraph [0053]).

As to claim 16, Sicola et al. teaches wherein the software agent communicates

with the at least one data storage system over the network in accordance with a Fibre

Channel protocol (see paragraph [0052]).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 5, 9, 13, and 17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Sicola et al. (US Pre-Grant Publication 2004/0064639) in view of

Choquier et al. (US Patent 6,961,681).

As to claims 5 and 13 <u>Sicola et al</u>. teaches the claim upon which this claim is dependent.

<u>Sicola et al</u>. does not teach wherein a predetermined hierarchal relationship is followed by the server to select the order in which each failover server is commanded to take over the work of the primary server.

<u>Choquier et al</u>. teaches wherein a predetermined hierarchal relationship is followed by the server to select the order in which each failover server is commanded to take over the work of the primary server (see column 8, lines 11-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Sicola et al</u>. by the teaching of <u>Choquier et al</u>., since <u>Choquier et al</u>. teaches that "this enables the election protocol for selecting a new controller to be straightforward" (see 8:18-20).

As to claims 9 and 17, <u>Sicola et al</u>. teaches the claim upon which this claim is dependent.

<u>Sicola et al</u>. dos not teach wherein the server uses a predetermined hierarchal relationship to select the order in which each failover server is commanded to take over the work of the primary server.

<u>Choquier et al</u>. teaches wherein a predetermined hierarchal relationship is followed by the server to select the order in which each failover server is commanded to take over the work of the primary server (see 8:11-18).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified <u>Sicola et al</u>. by the teaching of <u>Choquier et al</u>., since <u>Choquier et al</u>. teaches that "this enables the election protocol for selecting a new controller to be straightforward" (see 8:18-20).

Conclusion

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles D. Adams whose telephone number is (571) 272-3938. The examiner can normally be reached on 8:30 AM - 5:00 PM, M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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